COMPUTING AND USING RESOURCE COLORS FOR COMPOSITE LINKS

ABSTRACT

A router can consider two color vectors for a path including multiple links through a network. One color vector indicates colors that all of the multiple links include. Another color vector indicates the colors that none of the multiple links include. In setting up a constraint-based label switched path (LSP), a router can use a program that includes a logical process. With the process, the router can automatically compute the color vectors for the path whenever the path of an LSP changes and/or the characteristics (colors) of one or more of the multiple links constituting the LSP changes. Computing whether the path is eligible for inclusion in the LSP includes calculating whether the path includes all colors that must be included in an LSP and calculating whether the path includes any of the colors that must be excluded from the LSP.